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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/648,368	MOMOZONO ET AL.	
	Examiner	Art Unit	
	Jin-Cheng Wang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's submission filed on 7/31/2007 has been considered and the submission filed on 4/4/2007 has been entered. Claims 1-11 have been canceled. Claim 12 has been amended. Claim 12 is pending in the application.

Response to Arguments

Applicant's arguments filed July 31, 2007 have been fully considered and some arguments are found persuasive and therefore the final rejection set forth in May 31, 2007 is withdrawn. However, the rejection set forth in the present Office Action is thus restructured. Applicant's arguments are rendered moot in view of the new ground(s) of rejection of the amended claim 12 set forth in the present Office Action.

Detailed reasons for the 101 rejection is given in the present Office Action. Applicant's Detailed Description and Figures do not show any hardware or circuit relating to the claimed subject matter of "device".

The claimed font processor is not a hardware or circuit. It is a font processing method implemented in a computer algorithm of Figs. 2-3. See Paragraph 0010 wherein the font processing method is described.

The claimed data acquiring device is embodied in the algorithm in the flow chart described in Block S1 of Fig. 2 wherein Block S1 describes acquiring font data to be displayed from font ROM and expand acquired font data into RAM. Both ROM and RAM are memory devices and do not constitute a data acquiring device because memory devices do not acquire

font data. It is the algorithm that performs the data acquiring function for acquiring the font data, as described in the flow chart of Fig. 2. Moreover, in applicant's Detailed Description and Figures, nothing can be found as to any hardware or circuit corresponding to the claimed data acquiring device. Rather, a computer algorithm for acquiring the font data is described. As discussed above, the algorithm or computer software is employed to perform the function of acquiring the font data from ROM and then write the font data to RAM. No hardware or circuit has been disclosed to perform the function of acquiring the font data. Finally, applicant merely mentions data acquiring device in Summary of the Invention without any hardware or circuit embodied in Detailed Description and Figures.

The claimed font pixel generating device is embodied in the algorithm in the flow chart described in Fig. 3. See also Paragraph 0039-0046. It should be noted that the algorithm as described in Fig. 2 or Fig. 3 is executed by the CPU 16. The algorithm, when executed by the CPU, performs the function of the font pixel generating device as claimed, i.e., analyzing character pixel configuration of the font data using pattern matching, as claimed. Therefore, CPU 16 does not constitute the claimed element of a font pixel generating device. Moreover, in applicant's Detailed Description and Figures, nothing can be found as to any hardware or circuit corresponding to the claimed font pixel generating device. Only a font pixel generating software is described in Fig. 3 for analyzing the character pixel configuration of the font data using pattern matching. Applicant merely mentions a font pixel generating device in the Summary of the Invention without any hardware or circuit embodied in Detailed Description and Figures.

Therefore, the claim limitations are subject to the broadest reasonable interpretation consistent with applicant's specification, i.e., the claimed font processor is nothing more than a

font processing method. The claimed data acquiring device is nothing more than a computer algorithm for acquiring the font data. The claimed font pixel generating device is nothing more than a computer algorithm for analyzing the character pixel configuration of the font data using pattern matching as described in the computer programs of Figs. 2 and 3.

With respect to the 112 rejection set forth in the present Office Action, the examiner does not agree with applicant's argument that the claim 12 is merely missing a critical component. The claim 12's logic is not disclosed in the same manner as applicant's specification. The claimed logic is flawed for the following reasons.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

(a) Applicant speculated in the claim 12 the limitation of "a third determination unit" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel."

The claim 12 recites "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive, shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" and "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a

character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel."

From applicant's specification, e.g., paragraph 0044, "when an upper-left pixel or a lower-left pixel of the target pixel is a pixel constituting the character (■) and an upper-right pixel and a lower-right pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 3a or 3b."

Therefore, the claim 12's recitation of "a third determination unit" is incorrect in that applicant's omits an essential component. The third determination unit should determine the following holds true, a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" depends upon the third determination unit. Because the third determination unit is not disclosed in the same manner as applicant's specification, whether the target character pixel can be shifted depends upon the "if" condition set forth in the claim. However, because applicant's third determination is not disclosed in the same manner as applicant's specification, the logic is no longer correct.

By the same token, the condition for "shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" to happen depends upon "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" wherein "a

third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel," as opposed to "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines the following holds true, i.e., a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)". Applicant cannot omit the essential element in the third determination unit that provides the basis for the shifting of the target pixel.

(b) Applicant speculated in the claim 12 the limitation "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel".

From applicant's specification, e.g., paragraph 0046, "when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b."

Therefore, applicant's specification at best discloses "if the determinations of both the first and second determination units are negative, the determination of the third determination unit is negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel".

(c) Applicant further speculated in the claim 12 the limitation of "fourth determination unit" wherein "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side."

The claim 12 recites "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" and "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side."

From applicant's specification, e.g., paragraph 0046, "when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an

upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b."

Therefore, the claim 12 recites "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel"

Therefore, the claim 12's recitation of "a fourth determination unit" is incorrect. The fourth determination unit should determines whether the following condition holds true, i.e., a character pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" depends upon the fourth determination unit. Because the fourth determination unit is not disclosed in the same manner as the applicant's specification, whether the target character pixel can be shifted depends upon the "if" condition. However, because applicant's fourth determination unit is not disclosed in the same manner as applicant's specification, the logic "if" is flawed.

By the same token, the condition for "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" to happen depends upon "if the determinations of both the first and second determination units are negative, and the determination of the fourth

determination unit is positive" wherein "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side," as opposed to "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive" wherein "a fourth determination unit that operates only after a negative determination at the first, second and third determination units, and determines if the following holds true, i.e., a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)". Applicant cannot omit the essential element in the fourth determination unit that provides the basis for the shifting of the target pixel.

In summary, applicant's claim 12 presented numerous errors that are inconsistent with the description set forth in the applicant's specification.

With respect to the prior art rejection, a new ground of rejection is given, rendering the argument moot. Moreover, for the sake of compact prosecution, the examiner has given the detailed illustration as to why Toji has taught the pattern matching using the patterns found in Fig. 14(a) and 15 of Toji. These patterns in Toji clearly meet the claim limitations set forth in the claim 12.

Toji teaches a font processor (font processor is interpreted as a font processing method consistent with applicant's specification at Figs. 2-3 and Paragraph 0011; See Fig. 1 of Toji), comprising:

A data acquiring device that acquires font data of bitmap fonts (See Fig. 1 and Fig. 13 of Toji); and

A subpixel-font generating device that separately analyzes character pixel configuration of the font data using pattern matching to generate subpixel fonts, the subpixel fonts being data in units of subpixels (*See Fig. 1 and Fig. 13 of Toji. Moreover, See Fig. 14a-15 of Toji wherein Toji teaches a plurality of patterns to meet the claimed first determination unit, the second determination unit, the third determination and the fourth determination unit*), the subpixel-font generating device including:

A first determination unit that determines whether a character pixel constituting the font data is located at a first position that, with respect to a first direction in which character pixels are to be aligned, is adjacent to a target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 4th-row through 6th row and 2rd column through 4th column that is the same as the first determination unit or pattern 1a or pattern 1b in applicant's Fig. 4; see the Examiner's Figure 1*);

A second determination unit that determines whether a character pixel constituting the font data is located at a second position that, with respect to a second direction orthogonal to the first direction, is adjacent to the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 3th-row through 5th row and 3rd column through 5th column that is the same as the first determination unit or pattern 2 in applicant's Fig. 4; see the Examiner's Figure 2*); and

A third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a

third position that is adjacent and diagonal to one side of the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 3rd column through 5th column that is the same as the first determination unit or pattern 3a in applicant's Fig. 5; see Examiner's Figure 3*), wherein:

A fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 1st column through 3rd column that is the same as the first determination unit or pattern 4a in applicant's Fig. 5; see the Examiner's Figure 4*); and

A target character pixel expansion unit that:

If the determination of either the first or second determination units is positive, disposes subpixels at the position of the target character pixel without shifting the target character pixel (*See Fig. 15, the center pixel constituting the target character pixel at 4th row and 2nd column of Fig. 14(a) is not shifted for pattern 2. Moreover, the center pixel at the 5th row and 3rd column is not shifted for pattern 1a or pattern 1b as illustrated in Fig. 15 for the center pixel in Fig. 14(a)*);

If the determinations of both the first and second determination units are negative, and the determination of the third determination unit is positive, shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 3rd column through 5th column that is the same as the first determination unit or pattern 3a in applicant's Fig. 5; see the examiner's illustration. For*

the pattern 3a illustrated in Fig. 14(a) of Toji, the claimed "if" condition is met while the center pixel constituting the target character pixel at the 3rd row and 4th column is shifted leftward by one subpixel as shown in Fig. 15); and

If the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 1st column through 3rd column that is the same as the first determination unit or pattern 4a in applicant's Fig. 5; see the examiner's illustration. For the pattern 4a illustrated in Fig. 14(a), the claimed "if" condition is met while the center pixel for the target character pixel in the 3rd row and 2nd column is shifted rightward by one subpixel as shown in Fig. 15*).

Please Review the examiner's illustration of the patterns 1a, 1b, pattern 2, pattern 3a and pattern 4a as taught by Toji in Fig. 14(a) and 15 as illustrated in Examiner's Figure 1, Examiner's Figure 2, Examiner's Figure 3 and Examiner's Figure 4 wherein ach individual target character pixel in the center of the patterns 1a, 1b, or pattern 2, or pattern 3a or pattern 4a, respectively, is shifted or not shifted depending on the individual pattern the target character pixel is located.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 12:

Claim 12 applies a computer program as part of a seemingly patentable process, however, claim 12 in reality seeks patent protection for the computer program as evidenced in applicant's specification, paragraph 0038 and Figs. 2-3. Computer program per se is neither computer components nor statutory process. Thus, claim 12 is non-statutory.

Additionally, since claim 12 includes a 101 judicial exception, claim 12 must be for a practical application of the judicial exception. As is, claim 12 failed to recite either a physical transformation or produces a useful and tangible result. Thus, claim 1 is also non-statutory for this reason.

Applicant's Detailed Description and Figures do not show any hardware or circuit relating to the claimed subject matter of "device".

The claimed font processor is not a hardware or circuit. It is a font processing method implemented in a computer algorithm of Figs. 2-3. See Paragraph 0010 wherein the font processing method is described.

The claimed data acquiring device is embodied in the algorithm in the flow chart described in Block S1 of Fig. 2 wherein Block S1 describes acquiring font data to be displayed from font ROM and expand acquired font data into RAM. Both ROM and RAM are memory devices and do not constitute a data acquiring device because memory devices do not acquire

font data. It is the algorithm that performs the data acquiring function for acquiring the font data, as described in the flow chart of Fig. 2. Moreover, in applicant's Detailed Description and Figures, nothing can be found as to any hardware or circuit corresponding to the claimed data acquiring device. Rather, a computer algorithm for acquiring the font data is described. As discussed above, the algorithm or computer software is employed to perform the function of acquiring the font data from ROM and then write the font data to RAM. No hardware or circuit has been disclosed to perform the function of acquiring the font data. Finally, applicant merely mentions data acquiring device in Summary of the Invention without any hardware or circuit embodied in Detailed Description and Figures.

The claimed font pixel generating device is embodied in the algorithm in the flow chart described in Fig. 3. See also Paragraph 0039-0046. It should be noted that the algorithm as described in Fig. 2 or Fig. 3 is executed by the CPU 16. The algorithm, when executed by the CPU, performs the function of the font pixel generating device as claimed, i.e., analyzing character pixel configuration of the font data using pattern matching, as claimed. Therefore, CPU 16 does not constitute the claimed element of a font pixel generating device. Moreover, in applicant's Detailed Description and Figures, nothing can be found as to any hardware or circuit corresponding to the claimed font pixel generating device. Only a font pixel generating software is described in Fig. 3 for analyzing the character pixel configuration of the font data using pattern matching. Applicant merely mentions a font pixel generating device in the Summary of the Invention without any hardware or circuit embodied in Detailed Description and Figures.

Therefore, the claim limitations are subject to the broadest reasonable interpretation consistent with applicant's specification, i.e., the claimed font processor is nothing more than a

font processing method. The claimed data acquiring device is nothing more than a computer algorithm for acquiring the font data. The claimed font pixel generating device is nothing more than a computer algorithm for analyzing the character pixel configuration of the font data using pattern matching as described in the computer programs of Figs. 2 and 3.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

(a) Applicant speculated in the claim 12 the limitation of "a third determination unit" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel."

The claim 12 recites "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive, shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" and "a third determination unit that operates only after a

negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel."

From applicant's specification, e.g., paragraph 0044, "when an upper-left pixel or a lower-left pixel of the target pixel is a pixel constituting the character (■) and an upper-right pixel and a lower-right pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 3a or 3b."

Therefore, the claim 12's recitation of "a third determination unit" is incorrect in that applicant's omits an essential component. The third determination unit should determine the following holds true, a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" depends upon the third determination unit. Because the third determination unit is not disclosed in the same manner as applicant's specification, whether the target character pixel can be shifted depends upon the "if" condition set forth in the claim. However, because applicant's third determination is not disclosed in the same manner as applicant's specification, the logic is no longer correct.

By the same token, the condition for "shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" to happen depends upon "if the determination of both the first and second determination

units are negative, and the determination of the third determination unit is positive" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel," as opposed to "if the determination of both the first and second determination units are negative, and the determination of the third determination unit is positive" wherein "a third determination unit that operates only after a negative determination at both the first and second determination units, and determines the following holds true, i.e., a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)". Applicant cannot omit the essential element in the third determination unit that provides the basis for the shifting of the target pixel.

(b) Applicant speculated in the claim 12 the limitation "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel".

From applicant's specification, e.g., paragraph 0046, "when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an

upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b."

Therefore, applicant's specification at best discloses "if the determinations of both the first and second determination units are negative, the determination of the third determination unit is negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel".

(c) Applicant further speculated in the claim 12 the limitation of "fourth determination unit" wherein "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side."

The claim 12 recites "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" and "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side."

From applicant's specification, e.g., paragraph 0046, "when the matching area does not correspond to the pattern 3a or 3b (the determination result is No in Step S14), the CPU 16 determines whether the matching are patterns for detecting right diagonal lines. When an upper-

right pixel or a lower-right pixel of the target pixel is a pixel constituting the character (■) and an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□), the matching area corresponds to the pattern 4a or 4b."

Therefore, the claim 12 recites "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel"

Therefore, the claim 12's recitation of "a fourth determination unit" is incorrect. The fourth determination unit should determines whether the following condition holds true, i.e., a character pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both an upper-left pixel and a lower-left pixel of the target pixel are pixels constituting the background (□).

The claim 12's recitation of "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" depends upon the fourth determination unit. Because the fourth determination unit is not disclosed in the same manner as the applicant's specification, whether the target character pixel can be shifted depends upon the "if" condition. However, because applicant's fourth determination unit is not disclosed in the same manner as applicant's specification, the logic "if" is flawed.

By the same token, the condition for "shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel" to happen depends upon "if the determinations of both the

first and second determination units are negative, and the determination of the fourth determination unit is positive" wherein "a fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side," as opposed to "if the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive" wherein "a fourth determination unit that operates only after a negative determination at the first, second and third determination units, and determines if the following holds true, i.e., a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side, while both the upper-right pixel and the lower-right pixel of the target pixel are pixels constituting the background (□)". Applicant cannot omit the essential element in the fourth determination unit that provides the basis for the shifting of the target pixel.

In summary, applicant's claim 12 presented numerous errors that are inconsistent with the description set forth in the applicant's specification.

In the interest of compact prosecution, the following prior art rejection is based on the recitations of the claim 12 as best understood by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Toji et al. U.S. Patent Application Publication 2003/0020729 (hereinafter Toji).

Re Claim 12:

Toji teaches a font processor (font processor is interpreted as a font processing method consistent with applicant's specification at Figs. 2-3 and Paragraph 0011; See Fig. 1 of Toji), comprising:

A data acquiring device that acquires font data of bitmap fonts (See Fig. 1 and Fig. 13 of Toji); and

A subpixel-font generating device that separately analyzes character pixel configuration of the font data using pattern matching to generate subpixel fonts, the subpixel fonts being data in units of subpixels (*See Fig. 1 and Fig. 13 of Toji. Moreover, See Fig. 14a-15 of Toji wherein Toji teaches a plurality of patterns to meet the claimed first determination unit, the second determination unit, the third determination and the fourth determination unit*), the subpixel-font generating device including:

A first determination unit that determines whether a character pixel constituting the font data is located at a first position that, with respect to a first direction in which character pixels are to be aligned, is adjacent to a target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 4th-row through 6th row and 2rd column through*

4th column that is the same as the first determination unit or pattern 1a or pattern 1b in applicant's Fig. 4; see the Examiner's Figure 1);

A second determination unit that determines whether a character pixel constituting the font data is located at a second position that, with respect to a second direction orthogonal to the first direction, is adjacent to the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 3th-row through 5th row and 3rd column through 5th column that is the same as the first determination unit or pattern 2 in applicant's Fig. 4; see the Examiner's Figure 2*); and

A third determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a character pixel is located at a third position that is adjacent and diagonal to one side of the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 3rd column through 5th column that is the same as the first determination unit or pattern 3a in applicant's Fig. 5; see Examiner's Figure 3*), wherein:

A fourth determination unit that operates only after a negative determination at both the first and second determination units, and determines whether a pixel is located at a fourth position that is adjacent and diagonal to another side of the target character pixel that is opposite to the one side (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 1st column through 3rd column that is the same as the first determination unit or pattern 4a in applicant's Fig. 5; see the Examiner's Figure 4*); and

A target character pixel expansion unit that:

If the determination of either the first or second determination units is positive, disposes subpixels at the position of the target character pixel without shifting the target character pixel (*See Fig. 15, the center pixel constituting the target character pixel at 4th row and 2nd column of Fig. 14(a) is not shifted for pattern 2. Moreover, the center pixel at the 5th row and 3rd column is not shifted for pattern 1a or pattern 1b as illustrated in Fig. 15 for the center pixel in Fig. 14(a)*);

If the determinations of both the first and second determination units are negative, and the determination of the third determination unit is positive, shifts the target character pixel in one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 3rd column through 5th column that is the same as the first determination unit or pattern 3a in applicant's Fig. 5; see the examiner's illustration. For the pattern 3a illustrated in Fig. 14(a) of Toji, the claimed "if" condition is met while the center pixel constituting the target character pixel at the 3rd row and 4th column is shifted leftward by one subpixel as shown in Fig. 15*); and

If the determinations of both the first and second determination units are negative, and the determination of the fourth determination unit is positive, shifts the target character pixel in a direction opposite to the one direction by at least one subpixel distance before disposing subpixels at the position of the target character pixel (*See Fig. 14(a)-15 wherein Fig. 14(a) contains a pattern in the matrix formed by the 2nd-row through 4th row and 1st column through 3rd column that is the same as the first determination unit or pattern 4a in applicant's Fig. 5; see the examiner's illustration. For the pattern 4a illustrated in Fig. 14(a), the claimed "if"*

condition is met while the center pixel for the target character pixel in the 3rd row and 2nd column is shifted rightward by one subpixel as shown in Fig. 15).

Please Review the examiner's illustration of the patterns 1a, 1b, pattern 2, pattern 3a and pattern 4a as taught by Toji in Fig. 14(a) and 15 as illustrated in Examiner's Figure 1, Examiner's Figure 2, Examiner's Figure 3 and Examiner's Figure 4 wherein ach individual target character pixel in the center of the patterns 1a, 1b, or pattern 2, or pattern 3a or pattern 4a, respectively, is shifted or not shifted depending on the individual pattern the target character pixel is located.

Fig. 14(a)

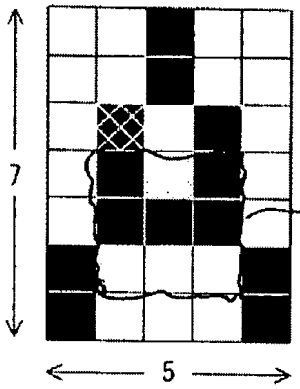
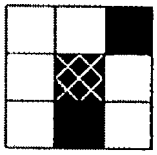


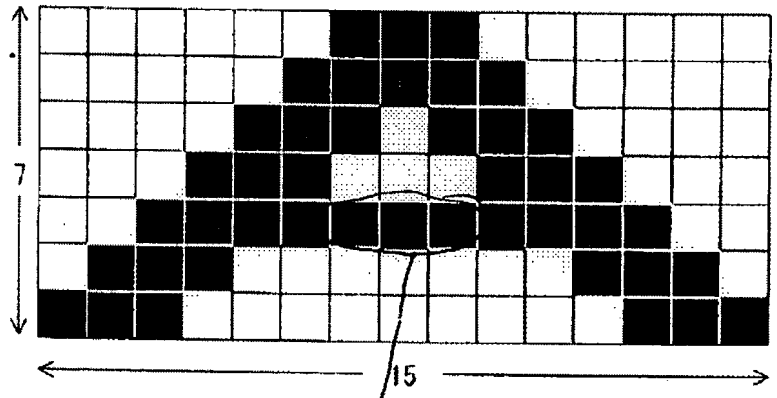
Fig. 14(b)



pattern 1a or patter 1b

Fig. 14(c)

Fig. 15



target pixel not shifted

Examiner's Figure 1

Fig. 14(a)

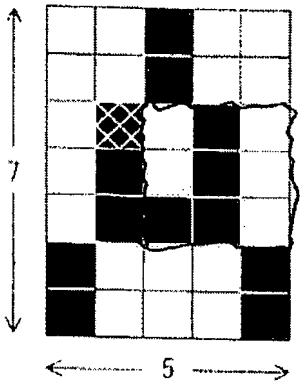


Fig. 14(b)

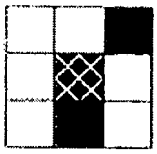
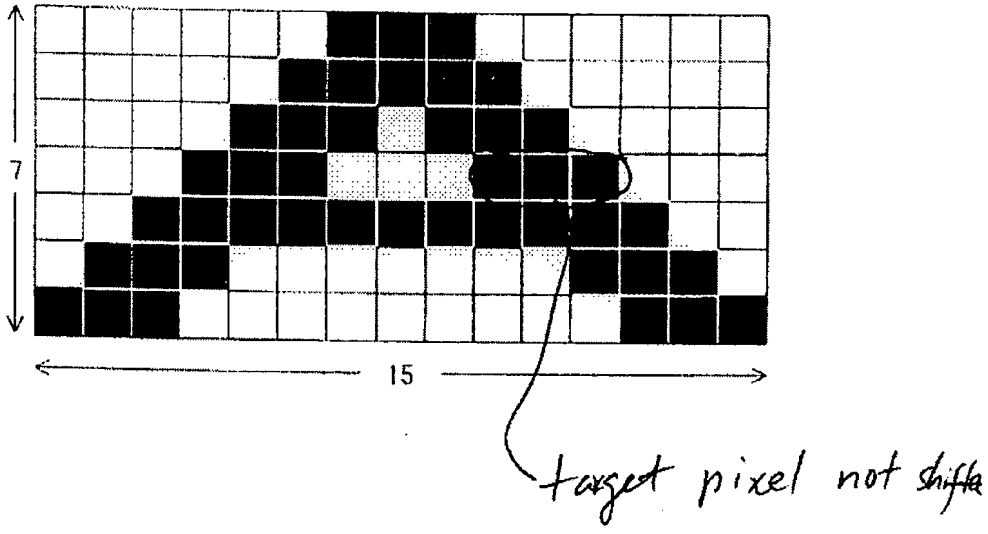


Fig. 14(c)

Fig. 15



Examiner's Figure 2

Fig. 14(a)

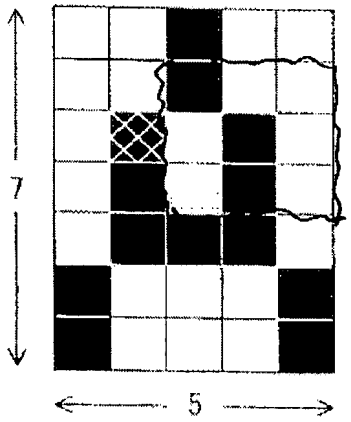


Fig. 14(b)

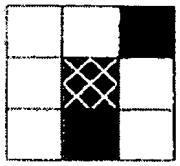
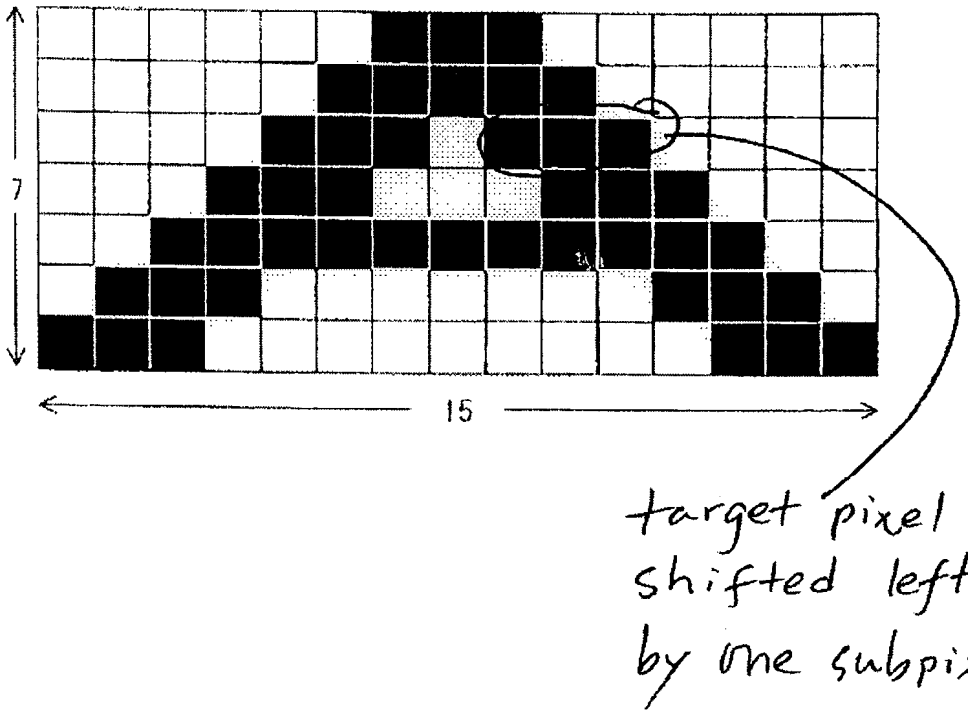


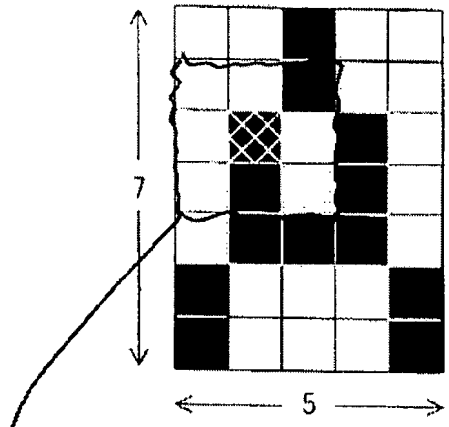
Fig. 14(c)

Fig. 15



Examiner's Figure 3

Fig. 14(a)



Pattern 4a

Fig. 14(b)

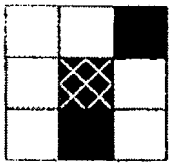
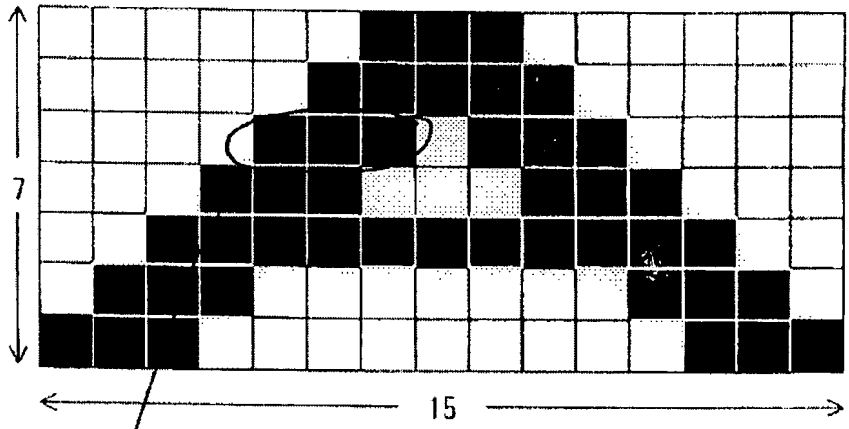


Fig. 14(c)

Fig. 15



target pixel shifted rightward by one subpixel

Examiner's Figure 4

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcw Jin Cheng Wang, P.E.